

U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified)				Docket No. APPM/6303.02	Serial No. 09/965,373			
LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Chung, et al.	Confirmation No.:			
COPY OF PAPERS ORIGINALLY FILED								
(Use several sheets if necessary)				Filing Date	Group			
		Examiner	Unknown TRADEMARK	September 26, 2001	Unknown			
U.S. Patent Documents								
*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
<i>WSL</i>	A1	6,268,291	07-31-2001	Andricacos et al.	438	694	12-03-1998	
	A2	6,249,055	06-19-2001	Dubin	257	758	02-03-1998	
	A3	6,160,315	12-12-2000	Chiang et al.	257	762	01-06-2000	
	A4	6,066,892	05-23-2000	Ding et al.	257	751	05-14-1998	
	A5	6,037,257	03-14-2000	Chiang et al.	438	687	05-08-1997	
	A6	5,744,394	04-28-1998	Iguchi et al.	438	276	04-23-1997	
	A7	5,654,232	08-05-1997	Gardner	438	661	03-15-1996	
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	A9							
	A10							
	A11							
	A12							
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OTHER ART								
*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
<i>WSL</i>	C1	USSN 09/518,004, Filed March 2, 2000						
	C2							
	C3							
Examiner	<i>WSL</i>			Date Considered	<i>8/26/03</i>			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.								

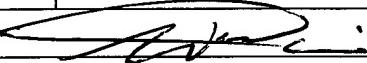
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Examiner Unknown								
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*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
WSL	A1	4,058,430	11/15/77	Suntola et al.	156	611	11/25/1978	
	A2	4,389,973	06/28/83	Suntola et al.	118	725	12/11/1981	
	A3	4,413,022	11/01/83	Suntola et al.	427	255.2	06/21/1979	
	A4	4,486,487	12/04/84	Skarp	428	216	04/25/1983	
	A5	4,767,494	08/30/88	Kobayashi et al.	156	606	09/19/1986	
	A6	4,806,321	02/21/89	Nishizawa et al.	422	245	07/21/1985	
	A7	4,829,022	05/09/89	Kobayashi et al.	437	107	12/09/1986	
	A8	4,834,831	05/30/89	Nishizawa et al.	156	611	09/04/1987	
	A9	4,838,983	06/13/89	Schumaker et al.	156	613	03/18/1988	
	A10	4,838,993	06/13/89	Aoki et al.	156	643	12/03/1987	
	A11	4,840,921	06/20/89	Matsumoto	437	89	06/30/1988	
	A12	4,845,049	07/04/89	Sunakawa	437	81	03/28/1988	
	A13	4,859,625	08/22/89	Nishizawa et al.	437	81	11/20/1987	
Foreign Patent Documents								
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WSL	B1	01/66832 A2	09/13/2001	WO	C30B	16/44		X
	B2	01/40541 A1	06/07/2001	WO	C23C	16/40		X
	B3	01/36702 A1	05/25/2001	WO	C23C	16/00		X
	B4	01/29893 A1	04/26/2001	WO	H01L	21/768		X
	B5	01/29891 A1	04/26/2001	WO	H01L	21/768		X
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*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
WSL	C1	Hultman, et al., "Review of the thermal and mechanical stability of TiN-based thin films", Zeitschrift Fur Metallkunde, 90(10) (Oct. 1999), pp. 803-813.						
WSL	C2	Klaus, et al., "Atomic Layer Deposition of SiO ₂ Using Catalyzed and Uncatalyzed Self-Limiting Surface Reactions", Surface Review & Letters, 6(3&4) (1999), pp. 435-448.						
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WSL	A14	4,859,627	08/22/89	Sunakawa	437	81	07/01/1988	
	A15	4,861,417	08/29/89	Mochizuki et al.	156	610	03/24/1988	
	A16	4,876,218	10/24/89	Pessa et al.	437	107	09/26/1988	
	A17	4,927,670	05/22/1990	Erbil	427	255.3	06/22/1988	
	A18	4,931,132	06/05/90	Aspnes et al.	156	601	10/07/1988	
	A19	4,960,720	10/02/90	Shimbo	437	105	08/24/1987	
	A20	4,975,252	12/04/90	Nishizawa et al.	422	245	05/26/1989	
	A21	4,993,357	02/19/91	Scholz	118	715	12/21/1989	
	A22	5,013,683	05/07/91	Petroff et al.	437	110	01/23/1989	
	A23	5,082,798	01/21/92	Arimoto	437	108	09/27/1990	
	A24	5,085,885	02/04/92	Foley et al.	477	38	09/10/1990	
	A25	5,091,320	02/25/92	Aspnes et al.	437	8	06/15/1990	
	A26	5,130,269	07/14/92	Kitahara et al.	437	111	04/25/1989	
	A27	5,166,092	11/24/92	Mochizuki et al.	437	105	10/30/1990	
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WSL	B6	01/29280 A1	04/26/2001	WO	C23C	16/32		X
	B7	01/27347 A1	04/19/2001	WO	C23C	16/44		X
	B8	01/27346 A1	04/19/2001	WO	C23C	16/44		X
	B9	01/15220 A1	03/01/2001	WO	H01L	21/768		X
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*Examiner Initial		Including Author, Title, Date, Pertinent Pages, Etc.						
WSL	C3	Yamaguchi, et al., "Atomic-layer chemical-vapor-deposition of silicon dioxide films with extremely low hydrogen content", <i>Appl. Surf. Sci.</i> , Vol. 130-132 (1998), pp. 202-207.						
WSL	C4	George, et al., "Surface Chemistry for Atomic Layer Growth", <i>J. Phys. Chem.</i> , Vol. 100 (1996), pp. 13121-131.						
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*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate
WSL	A28	5,225,366	07/06/93	Yoder	437	108	06/22/1990
	A29	5,246,536	09/21/93	Nishizawa et al.	156	610	03/10/1989
	A30	5,250,148	10/05/93	Nishizawa et al.	156	611	11/12/1991
	A31	5,254,207	10/19/93	Nishizawa et al.	156	601	11/30/1992
	A32	5,256,244	10/26/93	Ackerman	156	613	02/10/1992
	A33	5,270,247	12/14/93	Sakuma et al.	437	133	07/08/1992
	A34	5,278,435	01/11/94	Van Hove et al.	257	184	06/08/1992
	A35	5,281,274	01/25/94	Yoder	118	697	02/04/1993
	A36	5,290,748	03/01/94	Knuutila et al.	502	228	07/16/1992
	A37	5,294,286	03/15/94	Nishizawa et al.	156	610	01/12/1993
	A38	5,296,403	03/22/94	Nishizawa et al.	437	133	10/23/1992
	A39	5,300,186	04/05/94	Kitahara et al.	156	613	04/07/1992
✓	A40	5,311,055	05/10/94	Goodman et al.	257	593	11/22/1991
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*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation
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WSL	B10	00/79576 A1	12/28/2000	WO	H01L	21/205	X
	B11	00/79019 A1	12/28/2000	WO	C23C	16/00	X
✓	B12	00/63957 A1	10/26/2000	WO	H01L	21/205	X
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WSL	C5	George, et al., "Atomic layer controlled deposition of SiO ₂ and Al ₂ O ₃ using ABAB...binary reaction sequence chemistry", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 460-467.					
WSL	C6	Wise, et al., "Diethyldioctoxysilane as a new precursor for SiO ₂ growth on silicon", <i>Mat. Res. Soc. Symp. Proc.</i> , Vol. 334 (1994), pp. 37-43.					
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	Examiner	Examiner	FEB 28 2002 PATENT & TRADEMARK OFFICE FEB 28 2002 JO 45		Filing Date September 26, 2001	RECEIVED U.S. PATENT AND TRADEMARK OFFICE FEB 28 2002		
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*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	
WSL	A41	5,316,615	05/31/94	Copel	117	95	03/09/1993	
	A42	5,316,793	05/31/94	Wallace et al.	427	248.1	07/27/1992	
	A43	5,330,610	07/19/94	Eres et al.	117	86	05/28/1993	
	A44	5,336,324	08/09/94	Stall et al.	118	719	12/04/1991	
	A45	5,338,389	08/16/94	Nishizawa et al.	117	89	04/21/1993	
	A46	5,348,911	09/20/94	Jurgensen et al.	117	91	04/26/1993	
	A47	5,374,570	12/20/94	Nasu et al.	437	40	08/19/1993	
	A48	5,395,791	03/07/95	Cheng et al.	437	105	10/20/1993	
	A49	5,438,952	08/08/1995	Otsuka	117	84	01/31/1994	
	A50	5,439,876	08/08/95	Graf et al.	505	447	08/16/1993	
	A51	5,441,703	08/15/95	Jurgensen	422	129	03/29/1994	
	A52	5,443,033	08/22/95	Nishizawa et al.	117	86	03/11/1994	
	A53	5,443,647	08/22/95	Aucoin et al.	118	723 ME	07/11/1994	
↓	A54	5,455,072	10/03/95	Bension et al.	427	255.7	11/18/1992	
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*Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
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WSL	B13	00/54320 A1	09/14/2000	WO	H01L	21/44		X
	B14	00/16377 A2	03/23/2000	WO	H01L	---		X
↓	B15	00/15881 A2	03/23/2000	WO	C30B	---		X
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OTHER ART								
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WSL	C7	Niinisto, et al., "Synthesis of oxide thin films and overlayers by atomic layer epitaxy for advanced applications", Mat. Sci. & Eng., Vol. B41 (1996), pp. 23-29.						
Examiner 				Date Considered 8/26/03				
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LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)				Applicant Chung, et al.	RECEIVED TECHNOLOGY PARK September 26, 2001			
	Examiner WSL	Document Number A55	Issue Date 10/17/95	Applicant(s) Name Thorne et al.	Class 117	Subclass 89	Filing Date If Appropriate 12/09/1993	
		A56	5,469,806	Mochizuki et al.	117	97	08/20/1993	
		A57	5,480,818	Matsumoto et al.	437	40	02/09/1993	
		A58	5,483,919	Yokoyama et al.	117	89	08/17/1994	
		A59	5,484,664	Kitahara et al.	428	641	01/21/1994	
		A60	5,503,875	Imai et al.	427	255.3	03/17/1994	
		A61	5,521,126	Okamura et al.	437	235	06/22/1994	
		A62	5,527,733	Nishizawa et al.	437	160	02/18/1994	
		A63	5,532,511	Nishizawa et al.	257	627	03/23/1995	
		A64	5,540,783	Eres et al.	118	725	05/26/1994	
		A65	5,601,651	Watabe	118	715	12/14/1994	
		A66	5,616,181	Yamamoto et al.	118	723 ER	11/21/1995	
	↓	A67	5,637,530	Gaines et al.	114	105	06/10/1996	
Foreign Patent Documents								
*Examiner Initial WSL		Document Number B17	Date 08/19/1999	Country WO	Class C23C	Subclass ---	Translation	
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WSL	B18	99/41423 A2	06/17/1999	WO	C23C	16/04	X	
↓	B19	99/29924 A1	06/20/1996	WO	C23C	16/08	X	
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WSL	C8	Ritala, et al., "Perfectly conformal TiN and Al ₂ O ₃ films deposited by atomic layer deposition", <i>Chemical Vapor Deposition</i> , Vol. 5(1) (January 1999), pp. 7-9.						
WSL	C9	Klaus, et al., "Atomically controlled growth of tungsten and tungsten nitride using sequential surface reactions". <i>Appl. Surf. Sci.</i> , Vol 162-163 (2000), pp. 479-491.						
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<p>U.S. Patent Documents</p> <table border="1"> <thead> <tr> <th>*Examiner Initial</th> <th>Document Number</th> <th>Issue Date</th> <th>Applicant(s) Name</th> <th>Class</th> <th>Subclass</th> <th>Filing Date If Appropriate</th> </tr> </thead> <tbody> <tr> <td>WSL</td> <td>A68</td> <td>5,641,984</td> <td>06/24/97</td> <td>Aftergut et al.</td> <td>257</td> <td>433</td> <td>08/19/1994</td> </tr> <tr> <td></td> <td>A69</td> <td>5,644,128</td> <td>07/01/97</td> <td>Wollnik et al.</td> <td>250</td> <td>251</td> <td>08/25/1994</td> </tr> <tr> <td></td> <td>A70</td> <td>5,693,139</td> <td>12/02/97</td> <td>Nishizawa et al.</td> <td>117</td> <td>89</td> <td>06/15/1993</td> </tr> <tr> <td></td> <td>A71</td> <td>5,705,224</td> <td>01/06/98</td> <td>Murota et al.</td> <td>427</td> <td>248.1</td> <td>01/31/1995</td> </tr> <tr> <td></td> <td>A72</td> <td>5,707,880</td> <td>01/13/98</td> <td>Aftergut et al.</td> <td>437</td> <td>3</td> <td>01/17/1997</td> </tr> <tr> <td></td> <td>A73</td> <td>5,711,811</td> <td>01/27/98</td> <td>Suntola et al.</td> <td>118</td> <td>711</td> <td>11/28/1995</td> </tr> <tr> <td></td> <td>A74</td> <td>5,730,802</td> <td>03/24/98</td> <td>Ishizumi et al.</td> <td>118</td> <td>719</td> <td>12/27/1996</td> </tr> <tr> <td></td> <td>A75</td> <td>5,747,113</td> <td>05/05/98</td> <td>Tsai</td> <td>427</td> <td>255.5</td> <td>07/29/1996</td> </tr> <tr> <td></td> <td>A76</td> <td>5,749,974</td> <td>05/12/98</td> <td>Habuka et al.</td> <td>118</td> <td>725</td> <td>07/13/1995</td> </tr> <tr> <td></td> <td>A77</td> <td>5,796,116</td> <td>08/18/98</td> <td>Nakata et al.</td> <td>257</td> <td>66</td> <td>07/25/1995</td> </tr> <tr> <td></td> <td>A78</td> <td>5,807,792</td> <td>09/15/98</td> <td>Ilg et al.</td> <td>438</td> <td>758</td> <td>12/18/1996</td> </tr> <tr> <td></td> <td>A79</td> <td>5,830,270</td> <td>11/03/98</td> <td>McKee et al.</td> <td>117</td> <td>106</td> <td>08/05/1996</td> </tr> <tr> <td></td> <td>A80</td> <td>5,835,677</td> <td>11/10/98</td> <td>Li et al.</td> <td>392</td> <td>401</td> <td>10/03/1996</td> </tr> </tbody> </table>								*Examiner Initial	Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Date If Appropriate	WSL	A68	5,641,984	06/24/97	Aftergut et al.	257	433	08/19/1994		A69	5,644,128	07/01/97	Wollnik et al.	250	251	08/25/1994		A70	5,693,139	12/02/97	Nishizawa et al.	117	89	06/15/1993		A71	5,705,224	01/06/98	Murota et al.	427	248.1	01/31/1995		A72	5,707,880	01/13/98	Aftergut et al.	437	3	01/17/1997		A73	5,711,811	01/27/98	Suntola et al.	118	711	11/28/1995		A74	5,730,802	03/24/98	Ishizumi et al.	118	719	12/27/1996		A75	5,747,113	05/05/98	Tsai	427	255.5	07/29/1996		A76	5,749,974	05/12/98	Habuka et al.	118	725	07/13/1995		A77	5,796,116	08/18/98	Nakata et al.	257	66	07/25/1995		A78	5,807,792	09/15/98	Ilg et al.	438	758	12/18/1996		A79	5,830,270	11/03/98	McKee et al.	117	106	08/05/1996		A80	5,835,677	11/10/98	Li et al.	392	401	10/03/1996
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	A79	5,830,270	11/03/98	McKee et al.	117	106	08/05/1996																																																																																																															
	A80	5,835,677	11/10/98	Li et al.	392	401	10/03/1996																																																																																																															
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FEB 28 2002 PATENT & TRADEMARK OFFICE LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT				Applicant Chung, et al.				
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	A82	5,855,675	01/05/99	Doering et al.	118	719	03/03/1997	
	A83	5,855,680	01/05/99	Soininen et al.	118	719	11/28/1995	
	A84	5,858,102	01/12/99	Tsai	118	719	02/14/1998	
	A85	5,879,459	03/09/99	Gadgil et al.	118	715	08/29/1997	
	A86	5,904,565	05/18/1999	Nguyen, et al.	438	687	07/17/1997	
	A87	5,916,365	06/29/99	Sherman	117	92	08/16/1996	
	A88	5,923,056	07/13/99	Lee et al.	257	192	03/12/1998	
	A89	5,923,985	07/13/99	Aoki et al.	438	301	01/14/1997	
	A90	5,925,574	07/20/99	Aoki et al.	437	31	04/10/1992	
	A91	5,942,040	08/24/99	Kim et al.	118	726	08/27/1997	
	A92	5,947,710	09/07/1999	Cooper, et al.	418	63	06/16/1997	
	A93	5,972,430	10/26/99	DiMeo, Jr. et al.	427	255.32	11/26/1997	
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WSL	B24	0 442 290 A1	02/14/1991	EP	C30B	25/02		X
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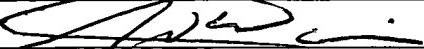
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	A95	6,015,590	01/18/00	Suntola et al.	427	255.23	11/28/1995
	A96	6,025,627	02/15/00	Forbes et al.	257	321	05/29/1998
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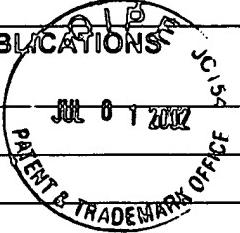
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↓	C14	Ritala, et al. "Atomic Layer Epitaxy Growth of TiN Thin Films", <i>J. Electrochem. Soc.</i> , 142(8) (Aug. 1995), pp. 2731-737.
↓	C15	Elers, et al., "NbC15 as a precursor in atomic layer epitaxy", <i>Appl. Surf. Sci.</i> , Vol. 82/83 (1994), pp. 468-474.

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<i>WSL</i>	A106	6,200,893	03/13/2001	Sneh	438	685	03/11/1998	
	A107	6,203,613	03/20/2001	Gates, et al.	117	104	10/19/1999	
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	A112	6,291,876	09/18/2001	Stumborg, et al.	257	632	08/20/1998	
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	A117	2001/0009140	07/26/2001	Bondestam, et al.	118	725	01/25/2001	
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<i>WSL</i>	C17	Martensson, et al., "Atomic Layer Epitaxy of Copper, Growth & Selectivity in the Cu (II)-2,2,6,6-Tetramethyl-3, 5-Heptanedion ATE/H ₂ Process", <i>J. Electrochem. Soc.</i> , 145(8) (Aug. 1998), pp. 2926-2931.						
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↓	A119	2001/0031562	10/18/2001	Raaijmakers, et al.	438	770	02/22/2001	
↓	A120	2001/0034123	10/25/2001	Jeon, et al.	438	643	04/06/2001	
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↓	C20	Yamaga, et al., "Atomic layer epitaxy of ZnS by a new gas supplying system in a low-pressure metalorganic vapor phase epitaxy", J. of Crystal Growth 117 (1992), pp. 152-155						
↓	C21	Elam, et al., "Nucleation and growth during tungsten atomic layer deposition on SiO ₂ surfaces," Thin Solid Films 386 (2001) Pages 41 – 52, (Accepted Dec. 14, 2000).						
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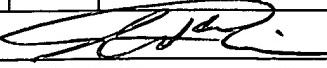
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